

## **2.4 Biodiversity Indicator 3. Seral Stage Distribution**

### 2.4.1 Background:

It is believed that the greater the divergence of managed stands from their natural age class or “seral stage” distribution patterns, the greater is the risk of loss to biodiversity. Bulkley Landscape Unit Plans (LUP’s) provide early, [mature plus old] and old seral stage distribution objectives, based on natural disturbance regimes defined by the Biodiversity Guidebook. Seral stage objectives are applicable to the forested portions of biogeoclimatic (BEC) variants within each approved landscape unit: all landscape units and objectives are approved, with the exception of Bulkley and Kitsegucla.

### 2.4.2 Measure:

Seral stage distribution (of forested area, by BEC variant by Landscape Unit) versus early, mature plus old, and old seral stage objectives for Landscape Units.

### 2.4.3 Results and Discussion:

Figure 5 illustrates the current seral stage distribution across Bulkley TSA. Table 2 reports the current status of the forested landbase in comparison to seral stage objectives. Instances where objectives are not met or are close to thresholds are highlighted in the table, and also in the figure (for just approved LU’s).

In summary:

- early seral objectives are met in all approved LU’s with the exception of Trout Creek (ICHmc1), Corya (ICHmc2) and Reisetser (ICHmc1).
- mature plus old seral objectives are met across all approved LU’s
- old seral objectives are met in all approved LU’s with the exception of Reisetser (ICHmc2), Corya (ICHmc2), Trout Creek (ICHmc2) and Deep Creek (ESSFmc).
  
- early seral “objectives” are approaching the threshold for Kitsegucla ICHmc2;
- old seral “objectives” are not achieved in
  - Bulkley ICHmc2, SBSdk and SBSmc2
  - Kitsegucla ESSFmc and ICHmc2.
- In lieu of higher-level plan objectives for the Kitsegucla and Bulkley LU’s, it shall be recommended that the DM consider these results in review of future development/ stewardship plan submissions.

An investigation of age classes was subsequently conducted for those landscape units where the old seral objective was not met. An “old recruitment” category (i.e. one age class below the cutoff for old seral) was identified and investigated, to determine if sufficient old growth is available for recruitment to meet old seral objectives within the next 20 years. The investigation determined that sufficient “old recruitment” was indeed available. Results are displayed in Table 1.

Table 1 – Availability of “Old Recruitment”

LU	BEC variant	Old Seral Objective (%)	Current (%)	Old Recruitment (%)
Bulkley	ICHmc2	>9	3	57
	SBSdk	>11	0	19
	SBSmc2	>11	3	34
Corya	ICHmc2	>13	9	16
Deep Creek	ESSFmc	>9	6	24
Kitsegucla	ESSFmc	>9	6	31
	ICHmc2	>9	6	12
Reiseter	ICHmc2	>9	3	38
Trout	ICHmc2	>9	2	20

Source: TSR3 dataset; Biodiversity Indicators in the Bulkley Landscape Units, Appendix 2.

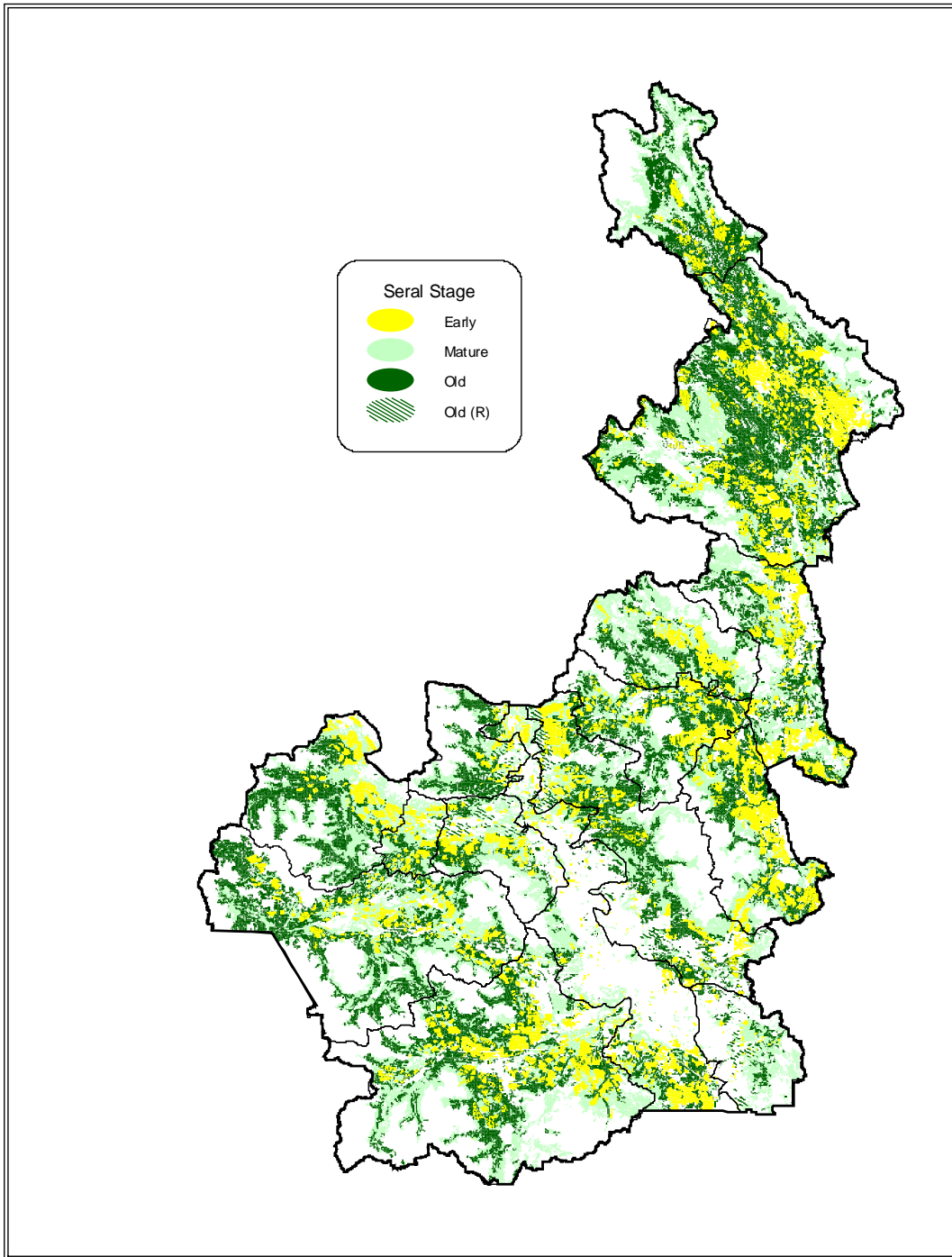
#### 2.4.4 Recommendations

Licensees have been advised that new proposals for clearcut harvest in affected areas will not be approved until such time as seral stage objectives are met. MSRSM has been made aware that the LUP for Deep Creek now requires a future amendment to include a recruitment objective for old seral. MRSRM shall also be made aware that the future LUP's for Kitsegucla and Bulkley landscape units will require old seral recruitment objectives.

#### 2.4.5 Data Sources:

- MSRSM, October 23, 2001. Biodiversity Indicators in the Bulkley Landscape Units; Part 1: Landscape Level Analysis.
- TSR3 dataset (includes forest cover data current to December 2000)
- Biodiversity Guidebook
- Bulkley Landscape Unit Plans

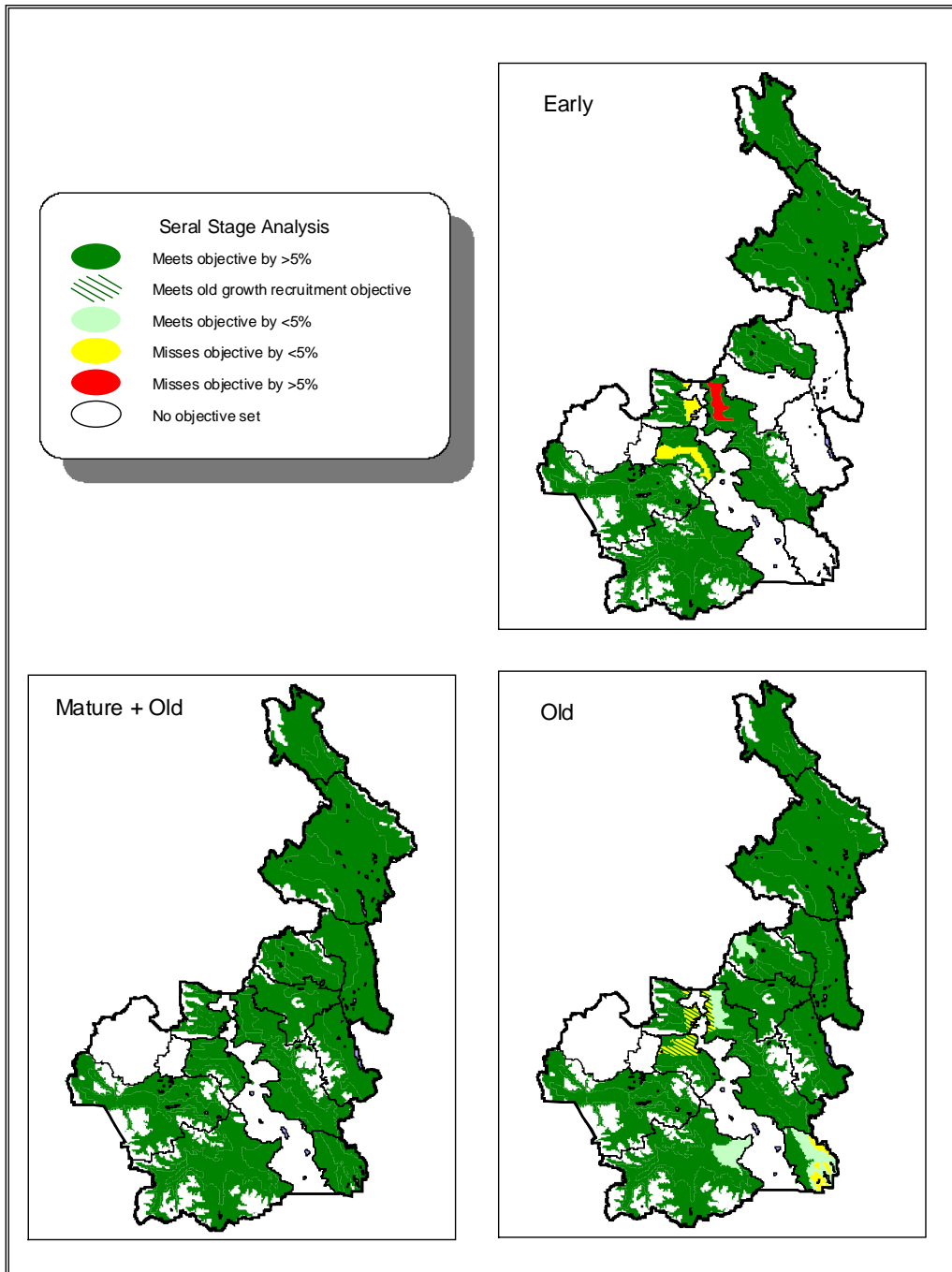
**Figure 5 - Seral Stage<sup>1</sup> Distribution Across the TSA**



Source: Biodiversity Indicators in the Bulkeley Landscape Units

<sup>1</sup> Includes FDP data approved in 2000.

**Figure 6 - Analysis of Seral Stage Distribution Against LUP Objectives**



Source: Biodiversity Indicators in the Bulkley Landscape Units

Table 2 – Comparison of Current Area by Seral Stage with Seral Objectives

LU	BEC Variant	Status of Seral Stages (% of Forested Area)					
		Target Early <40 yrs	Current State	Target Mature+Old*	Current State	Target Old*	Current State
Babine	ESSFmc	<36	15	>28 c	79	>9 e	27
	SBSmc2	<54	28	>23 b	64	>11 d	52
Blunt	ESSFmc	N/a	20	>14 c	76	>9 e	41
	SBSmc2	N/a	40	>11 b	54	>11 d	48
Bulkley <sup>2</sup>	ESSFmc	N/a	5	>14 c	86	>9 e	15
	ESSFwv	N/a	0	>19 c	98	>19 e	28
	ICHmc1	N/a	3	>15 b	89	>9 e	26
	ICHmc2	N/a	26	>15 b	50	>9 e	3
	SBSdk	N/a	29	>11 b	38	>11 d	0
	SBSmc2	N/a	17	>11 b	52	>11 d	3
Chapman	ESSFmc	N/a	19	>14 c	77	>9 e	19
	SBSmc2	N/a	50	>11 b	44	>11 d	37
Copper	CWHws2	<36	5	>34 a	94	>9 e	70
	ESSFmc	<36	19	>28 c	70	>9 e	17
	ESSFwv	<22	7	>36 c	87	>19 e	44
	ICHmc1	<36	19	>31 b	62	>9 e	23
	MHm2	<22	9	>36 c	90	>19 e	73
	SBSmc2	<54	25	>23 b	62	>11 d	43
Corya	ESSFmc	<27	0	>42 c	99	>13 e	60
	ESSFwv	<17	3	>54 c	96	>28 e	45
	ICHmc1	<27	10	>46 b	89	>13 e	63
	ICHmc2	<27	30	>46 b	59	>13 e	9
Deep Creek	ESSFmc	N/a	0	>14 c	37	>9 e	6
	SBSdk	N/a	5	>11 b	36	>11 d	12
	SBSmc2	N/a	2	>11 b	55	>11 d	14
Harold Price	ESSFmc	<36	8	>28 c	66	>9 e	17
	ESSFwv	<22	1	>36 c	84	>19 e	29
	ICHmc1	<36	7	>31 b	74	>9 e	11
	SBSmc2	<54	30	>23 b	68	>11 d	41
Kitsegucla <sup>2</sup>	CWHms2	<36	4	>34 a	96	>9 e	67
	ESSFmc	<36	13	>28 c	54	>9 e	7
	ESSFwv	<22	3	>36 c	94	>19 e	50
	ICHmc1	<36	24	>31 b	75	>9 e	47
	ICHmc2	<36	34	>31 b	46	>9 e	6
Nilkitkwa	ESSFmc	<27	8	>42 c	87	>13 e	42
	SBSmc2	<40	20	>34 b	78	>16 d	69
Reiseter	ESSFmc	<36	8	>28 c	82	>9 e	25
	ICHmc1	<36	49	>31 b	39	>9 e	11
	ICHmc2	<36	22	>31 b	55	>9 e	3
	SBSdk	<54	9	>23 b	65	>11 d	37
	SBSmc2	<54	18	>23 b	64	>11 d	53
Telkwa	CWHws2	<36	12	>34 a	86	>9 e	39
	ESSFmc	<36	8	>28 c	72	>9 e	27
	ESSFmk	<36	0	>28 c	98	>9 e	25
	ESSFwv	<22	13	>36 c	82	>19 e	50
	SBSdk	<54	29	>23 b	53	>11 d	15
	SBSmc2	<54	30	>23 b	47	>11 d	35
Torkelson	ESSFmc	N/a	14	>14 c	67	>9 e	26
	SBSmc2	N/a	32	>11 b	46	>11 d	25
Trout	ESSFmc	<36	12	>28 c	73	>9 e	43
	ESSFwv	<22	5	>36 c	94	>19 e	29
	ICHmc1	<36	39	>31 b	58	>9 e	24
	ICHmc2	<36	15	>31 b	65	>9 e	2
	SBSdk	<54	17	>23 b	59	>11 d	38

\*Lower age limit for seral stage: a = 80 years; b = 100; c = 120; d = 140; e = 250

Source: Biodiversity Indicators in the Bulkley Landscape Units, Appendix 2; and TSR3 dataset

<sup>2</sup> Seral objectives for Bulkley and Kitsegucla landscape units are presently not approved. Table 2 reports the current status of the forested landbase against “objectives” as they would be if defined using a technique reflective of that for approved landscape units.